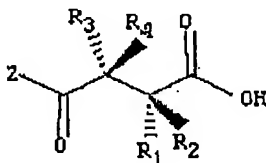


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CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A compound of general formula $Z-OC(CR_{n1}R_{n2})-CO-Z$ wherein $Z = OH$ or NH_2 , and $n1 = n2 = 1$ to 8, wherein one R in the compound is selected from the group consisting of SO_3H , OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , and $NHSO_3H$, and the remaining Rs are H or NH_2 , and non-toxic salts thereof.
2. (Currently Amended) A compound as claimed in claim 1 having a structure as shown below and bearing general formula $ZOC-CR_3R_4-CR_1R_2-COOH$ wherein: $Z=OH$ or NH_2 , R_1 to R_4 denotes H, NH_2 , SO_3H , or OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , $NHSO_3H$



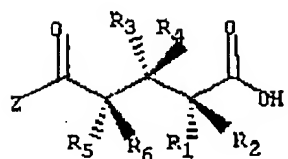
Structure 1

, and non-toxic salts thereof.

3. (Currently Amended) A compound as claimed in claim 1 having a structure as shown below and bearing general formula $ZOC-CR_5R_6-CR_3R_4-CR_1R_2-COOH$ wherein: $Z=OH$ or NH_2 , R_1 to R_6 denotes H, NH_2 , SO_3H , or OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , $NHSO_3H$

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Structure 2

, and non-toxic salts thereof.

4. (Currently Amended) A compound as claimed in claim 1 having a structure as shown below and bearing general formula $ZOC-CR_7R_8-CR_5R_6-CR_3R_4-CR_1R_2-COOH$ wherein: $Z=OH$ or NH_2 , R_1 to R_8 denotes H, NH_2 , SO_3H , or OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , $NHSO_3H$



Structure 3

, and non-toxic salts thereof.

5. (Currently Amended) A [[C]] compound as claimed in claim 2, wherein the compound is selected from the group consisting of:
- I [L- Aspartic acid, N-Sulfonic acid],
 - II [2 α ,3-dicarboxy, propane-1-sulfonic acid],
 - III [2 α ,3-dicarboxy, propane-1-sulfate],
 - IV [1 α ,2-carboxy ethane sulfonic acid],
 - V [1 α ,2-carboxy ethane sulfate],
 - VI [D-aspartic acid, N-sulfonic acid],
 - VII [2 β ,3-carboxy,propane-1-sulfonic acid],
 - VIII [2 β ,3-carboxy,propane-1-sulfate],
 - IX [1 β ,2-carboxy ethane-1-sulfonic acid],
 - X [1 β ,2-carboxy ethane-1-sulfate],

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- XI [D-aspartic acid, 3 α -sulfonic acid],
- XII [D-aspartic acid, 3 α -sulfate],
- XIII [D-aspartic acid, 3 β -sulfonic acid],
- XIV [D-aspartic acid, 3 β -sulfate],
- XV [L-asparagine, N-sulfonic acid],
- XVI [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX [L-asparagine, 3 α -sulfonic acid],
- XXI [L-asparagine, 3 α -sulfate],
- XXII [L-asparagine, 3 β -sulfonic acid],
- XXIII [L-asparagine, 3 β -sulfate],
- XXIV [D-asparagine, N-sulfonic acid],
- XXV [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX [D-asparagine, 3 α -sulfonic acid],
- XXX [D-asparagine, 3 α -sulfate],
- XXXI [D-asparagine, 3 β -sulfonic acid],
- XXXII [D-asparagine, 3 β -sulfate],
- XXXIII [L-glutamic acid, N-sulfonic acid],
- XXXIV [2 α , 4-dicarboxy, butane-1-sulfonic acid],
- XXXV [2 α , 4-dicarboxy, butane-1-sulfate],
- XXXVI [1 α , 3-dicarboxy, propane sulfonic acid],
- XXXVII [1 α , 3-dicarboxy, propane sulfate],
- XXXVIII [1 β , 3-dicarboxy, propane sulfate], and
- XXXIX [1 β , 3-dicarboxy, propane sulfonic acid], and

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6. (Currently Amended) A [[C]] compound as claimed in claim 3, wherein the compound is selected from the group consisting of:
- I. [D-glutamic acid, N-sulfonic acid],
 - II. 2 β , 4-dicarboxy, butane-1-sulfonic acid],
 - III. [2 β , 4-dicarboxy, butane-1-sulfate],
 - IV. [D-glutamic acid, 3 α -sulfonic acid],
 - V. [D-glutamic acid, 3 α -sulfate],
 - VI. [D-glutamic acid, 3 β -sulfonic acid],
 - VII. [D-glutamic acid, 3 β -sulfate],
 - VIII. [D-glutamic acid, 4 α -sulfonic acid],
 - IX. [D-glutamic acid, 4 α -sulfate],
 - X. [D-glutamic acid, 4 β -sulfonic acid],
 - XI. [D-glutamic acid, 3 β -sulfate],
 - XII. [L-glutamine, N-sulfonic acid],
 - XIII. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
 - XIV. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
 - XV. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
 - XVI. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
 - XVII. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],
 - XVIII. [1 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
 - XIX. [D-glutamine, N-sulfonic acid],
 - XX. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
 - XXI. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
 - XXII. [D-glutamine, 3 α -sulfonic acid],
 - XXIII. [D-glutamine, 3 α -sulfate],
 - XXIV. [D-glutamine, 3 β -sulfonic acid],
 - XXV. [D-glutamine, 3 β -sulfate],
 - XXVI. [D-glutamine, 4 α -sulfonic acid],
 - XXVII. [D-glutamine, 4 α -sulfate],
 - XXVIII. [D-glutamine, 4 β -sulfonic acid],

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- XXIX. [D-glutamine, 4 β -sulfate],
- XXX. [L-homoglutamic acid, N-sulfonic acid],
- XXXI. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
- XXXII. [Pentane-2 α , 5-dicarboxy-1-sulfate],
- XXXIII. [Butane-1 α , 4-dicarboxy-1-sulfonic acid],
- XXXIV. [Butane-1 α , 4-dicarboxy-1-sulfate],
- XXXV. [D-homoglutamic acid, N-sulfonic acid],
- XXXVI. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
- XXXVII. [Pentane-2 β , 5-dicarboxy-1-sulfate],
- XXXVIII. [Butane-1 β , 4-dicarboxy-1-sulfonic acid], and
- XXXIX. [Butane-1 β , 4-dicarboxy-1-sulfate].[[,]]

7. (Currently Amended) A [[C]] compound as claimed in claim 4, wherein the compound is selected from the group consisting of:

- I. [D-homoglutamic acid, 3 α -sulfonic acid],
- II. [D-homoglutamic acid, 3 α -sulfate],
- III. [D-homoglutamic acid, 3 β -sulfonic acid],
- IV. [D-homoglutamic acid, 3 β -sulfate],
- V. [D-homoglutamic acid, 4 α -sulfonic acid],
- VI. [D-homoglutamic acid, 4 α -sulfate],
- VII. [D-homoglutamic acid, 4 β -sulfonic acid],
- VIII. [D-homoglutamic acid, 4 β -sulfate],
- IX. [D-homoglutamic acid, 5 α -sulfate],
- X. [D-homoglutamic acid, 5 α -sulfate],
- XI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XII. [D-homoglutamic acid, 5 β -sulfate],
- XIII. [L-homoglutamine, N-sulfonic acid],
- XIV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XVI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],

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- XVII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XVIII. [D-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXII. [D-homoglutamine, 3 α -sulfonic acid],
- XXIII. [D-homoglutamine, 3 α -sulfate],
- XXIV. [D-homoglutamine, 3 β -sulfonic acid],
- XXV. [D-homoglutamine, 3 β -sulfate],
- XXVI. [D-homoglutamine, 4 α -sulfonic acid],
- XXVII. [D-homoglutamine, 4 α -sulfate],
- XXVIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXIX. [D-homoglutamine, 4 β -sulfate],
- XXX. [D-homoglutamine, 5 α -sulfonic acid],
- XXXI. [D-homoglutamine, 5 α -sulfate],
- XXXII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXIII. [D-homoglutamine, 5 β -sulfate].

8. (Currently Amended) Novel sulfonic acid / sulfate derivatives of the The compound of claim 2, wherein:

a) Z is OH, R₂-R₄ are H, and R₁ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

b) Z is OH, R₁ and R₃₋₄ are H, and R₂ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

c) Z is OH, R₁ and R₄ are H, R₂ is NH₂, and R₃ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

d) Z is NH₂, R₂-R₄ are H, and R₁ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

e) Z is NH₂, R₁ and R₄ are H, R₂ is NH₂, and R₃ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

f) Z is NH₂, R₁ and R₃ are H, R₂ is NH₂, and R₄ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H, or

g) Z is NH₂, R₁ and R₃₋₄ are H, and R₂ is selected from the group consisting of SO₃H, OSO₃H, CH₂--SO₃H, CH₂--OSO₃H, and NHSO₃H,

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and non-toxic salts thereof formulae $ZOC-CR_3R_4-CR_1R_2-COOH$ as claimed in claim 2,
wherein:

$Z=OH$ or NH_2 , R_1 to R_4 denotes H , NH_2 , SO_3H or OSO_3H , CH_2SO_3H , CH_2OSO_3H ,
 $NHSO_3H$

- I. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=NHSO_3H$ is the same meaning as is before defined;
- II. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;
- III. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;
- IV. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=SO_3H$ is the same meaning as is before defined;
- V. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=OSO_3H$ is the same meaning as is before defined;
- VI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=NHSO_3H$ is the same meaning as is before defined;
- VII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;
- VIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;
- IX. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=SO_3H$ is the same meaning as is before defined;
- X. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=OSO_3H$ is the same meaning as is before defined;
- XI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;
- XII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;
- XIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;

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- XIV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=NHISO_3H$ is the same meaning as is before defined;~~
- XVI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- XVII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XVIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- XIX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- XX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XXI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XXII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XXIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XXIV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=NHISO_3H$ is the same meaning as is before defined;~~
- XXV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- XXVI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XXVII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- XXVIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~

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~~XXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~

~~XXX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~

~~XXXI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~

~~XXXII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_4=R_3=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined.~~

9. (Currently Amended) Novel sSulfonic acid / sulfate derivatives of the compound of formulae $ZOC-CR_5R_6-CR_3R_4-CR_1R_2-COOH$ as claimed in claim 3

~~I. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=NHISO_3H$ is the same meaning as is before defined;~~

~~II. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~

~~III. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~

~~IV. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~

~~V. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~

~~VI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~

~~VII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~

~~VIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=NHISO_3H$ is the same meaning as is before defined;~~

~~IX. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~

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- X. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_3=NH_2$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- XII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XIV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XVI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XVII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XVIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XIX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=NHOSO_3H$ is the same meaning as is before defined;~~
- XX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- XXI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XXII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- XXIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- XXIV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~

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- XXV. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXVI. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{NHSO}_3\text{H}$ is the same meaning as is before defined;
- XXVII. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{CH}_2\text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXVIII. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{CH}_2\text{OSO}_3\text{H}$ is the same meaning as is before defined;
- XXIX. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_3 = \text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXX. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_3 = \text{OSO}_3\text{H}$ is the same meaning as is before defined;
- XXXI. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_4 = \text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXXII. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_4 = \text{OSO}_3\text{H}$ is the same meaning as is before defined;
- XXXIII. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_3 = \text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXXIV. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_4 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_3 = \text{OSO}_3\text{H}$ is the same meaning as is before defined;
- XXXV. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_4 = \text{SO}_3\text{H}$ is the same meaning as is before defined;
- XXXVI. A compound as claimed in claim 1, wherein $Z = \text{NH}_2$, $R_1 = R_3 = R_5 = R_6 = \text{H}$, $R_2 = \text{NH}_2$, $R_4 = \text{OSO}_3\text{H}$ is the same meaning as is before defined.
10. (Currently Amended) Novel sSulfonic acid / sulfate derivatives of the compound of formulae $\text{ZOC-CR}_7\text{R}_8\text{-CR}_3\text{R}_6\text{-CR}_3\text{R}_4\text{-CR}_1\text{R}_2\text{-COOH}$ as claimed in claim 4, wherein: $Z = \text{OH}$ or NH_2 , R_1 to R_8 denotes H , NH_2 , SO_3H , or OSO_3H , $\text{CH}_2\text{SO}_3\text{H}$, $\text{CH}_2\text{OSO}_3\text{H}$, NHSO_3H

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- I. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NHSO_3H$ is the same meaning as is before defined;
- II. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;
- III. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;
- IV. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=SO_3H$ is the same meaning as is before defined;
- V. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=OSO_3H$ is the same meaning as is before defined;
- VI. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$ is the same meaning as is before defined;
- VII. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;
- VIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;
- IX. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=SO_3H$ is the same meaning as is before defined;
- X. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=OSO_3H$ is the same meaning as is before defined;
- XI. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;
- XII. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;
- XIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;
- XIV. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;
- XV. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;

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- XXVI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_3=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_5=OSO_3H$ is the same meaning as is before defined;
- XXVII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_4=R_7=R_8=H$, $R_2=NH_2$, $R_6=SO_3H$ is the same meaning as is before defined;
- XXVIII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_4=R_7=R_8=H$, $R_2=NH_2$, $R_6=OSO_3H$ is the same meaning as is before defined;
- XXIX. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_3=R_6=R_5=R_8=H$, $R_2=NH_2$, $R_7=SO_3H$ is the same meaning as is before defined;
- XX. A compound as claimed in claim 1, wherein $Z=OH$, $R_4=R_1=R_3=R_6=R_5=R_8=H$, $R_2=NH_2$, $R_7=OSO_3H$ is the same meaning as is before defined;
- XXI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_4=R_7=R_6=H$, $R_2=NH_2$, $R_8=SO_3H$ is the same meaning as is before defined;
- XXII. A compound as claimed in claim 1, wherein $Z=OH$, $R_4=R_3=R_5=R_4=R_7=R_6=H$, $R_2=NH_2$, $R_8=OSO_3H$ is the same meaning as is before defined;
- XXIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NHISO_3H$ is the same meaning as is before defined;
- XXIV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;
- XXV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;
- XXVI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=SO_3H$ is the same meaning as is before defined;
- XXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=OSO_3H$ is the same meaning as is before defined;
- XXVIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NHISO_3H$ is the same meaning as is before defined;
- XXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_4=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;
- XXX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_4=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=SO_3H$ is the same meaning as is before defined;

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- ~~XXXI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6$, $R_7=R_8=H$, $R_9=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXIV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXVI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXVIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~
- ~~XL. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XLI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~
- ~~XLII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=SO_3H$ is the same meaning as is before defined;~~
- ~~XLIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_9=NH_2$, $R_{10}=OSO_3H$ is the same meaning as is before defined;~~

11. (Currently Amended) A [[C]] compound as claimed in claim 5, wherein said compound is a non-toxic salts salt selected from the group consisting of:
- I. [L-Aspartic acid, N-Sulfonic acid],

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- II. [2 α ,3-dicarboxy, propane-1-sulfonic acid],
- III. [2 α ,3-dicarboxy, propane-1-sulfate],
- IV. [1 α ,2-carboxy ethane sulfonic acid],
- V. [1 α ,2-carboxy ethane sulfate],
- VI. [D-aspartic acid, N-sulfonic acid],
- VII. [2 β ,3-carboxy,propane-1-sulfonic acid],
- VIII. [2 β ,3-carboxy,propane-1-sulfate],
- IX. [1 β ,2-carboxy ethane-1-sulfonic acid],
- X. [1 β ,2-carboxy ethane-1-sulfate],
- XI. [D-aspartic acid, 3 α -sulfonic acid],
- XII. [D-aspartic acid, 3 α -sulfate],
- XIII. [D-aspartic acid, 3 β -sulfonic acid],
- XIV. [D-aspartic acid, 3 β -sulfate],
- XV. [L-asparagine,N-sulfonic acid],
- XVI. [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII. [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX. [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX. [L-asparagine, 3 α -sulfonic acid],
- XXI. [L-asparagine, 3 α -sulfate],
- XXII. [L-asparagine, 3 β -sulfonic acid],
- XXIII. [L-asparagine, 3 β -sulfate],
- XXIV. [D-asparagine, N-sulfonic acid],
- XXV. [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII. [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII. [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX. [D-asparagine, 3 α -sulfonic acid],
- XXX. [D-asparagine, 3 α -sulfate],
- XXXI. [D-asparagine, 3 β -sulfonic acid],

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- XXXII. [D-asparagine, 3 β -sulfate],
XXXIII. [L-glutamic acid, N-sulfonic acid],
XXXIV. [2 α ,4-dicarboxy, butane-1-sulfonic acid],
XXXV. [2 α , 4-dicarboxy, butane-1-sulfate],
XXXVI. [1 α , 3-dicarboxy, propane sulfonic acid],
XXXVII. [1 α , 3-dicarboxy, propane sulfate],
XXXVIII. [1 β , 3-dicarboxy, propane sulfate], and
XXXIX. [1 β , 3-dicarboxy, propane sulfonic acid],[[.]]

12. (Currently Amended) A [[C]] compound as claimed in claim 6, wherein said compound is a non-toxic ~~salts~~ salt selected from the group consisting of:

- I. [D-glutamic acid, N-sulfonic acid],
- II. [2 β , 4-dicarboxy, butane-1-sulfonic acid],
- III. [2 β , 4-dicarboxy, butane-1-sulfate],
- IV. [D-glutamic acid, 3 α -sulfonic acid],
- V. [D-glutamic acid, 3 α -sulfate],
- VI. [D-glutamic acid, 3 β -sulfonic acid],
- VII. [D-glutamic acid, 3 β -sulfate],
- VIII. [D-glutamic acid, 4 α -sulfonic acid],
- IX. [D-glutamic acid, 4 α -sulfate],
- X. [D-glutamic acid, 4 β -sulfonic acid],
- XI. [D-glutamic acid, 3 β -sulfate],
- XII. [L-glutamine, N-sulfonic acid],
- XIII. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XIV. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
- XV. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVI. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVII. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XIX. [D-glutamine, N-sulfonic acid],

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- XX. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXI. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
- XXII. [D-glutamine, 3 α -sulfonic acid],
- XXIII. [D-glutamine, 3 α -sulfate],
- XXIV. [D-glutamine, 3 β -sulfonic acid],
- XXV. [D-glutamine, 3 β -sulfate],
- XXVI. [D-glutamine, 4 α -sulfonic acid],
- XXVII. [D-glutamine, 4 α -sulfate],
- XXVIII. [D-glutamine, 4 β -sulfonic acid],
- XXIX. [D-glutamine, 4 β -sulfate],
- XXX. [L-homoglutamic acid, N-sulfonic acid],
- XXXI. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
- XXXII. [Pentane-2 α , 5-dicarboxy-1-sulfate],
- XXXIII. [Butane-1 α , 4-dicarboxy-1-sulfonic acid],
- XXXIV. [Butane-1 α , 4-dicarboxy-1-sulfate],
- XXXV. [D-homoglutamic acid, N-sulfonic acid],
- XXXVI. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
- XXXVII. [Pentane-2 β , 5-dicarboxy-1-sulfate],
- XXXVIII. [Butane-1 β , 4-dicarboxy-1-sulfonic acid], and
- XXXIX. [Butane-1 β , 4-dicarboxy-1-sulfate], [[,]]

13. (Currently Amended) A [[C]] compound as claimed in claim 7, wherein said compound is a non-toxic salts salt selected from the group consisting of:

- I. [D-homoglutamic acid, 3 α -sulfonic acid],
- II. [D-homoglutamic acid, 3 α -sulfate],
- III. [D-homoglutamic acid, 3 β -sulfonic acid],
- IV. [D-homoglutamic acid, 3 β -sulfate],
- V. [D-homoglutamic acid, 4 α -sulfonic acid],
- VI. [D-homoglutamic acid, 4 α -sulfate],
- VII. [D-homoglutamic acid, 4 β -sulfonic acid],

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- VIII. [D-homoglutamic acid, 4 β -sulfate],
- IX. [D-homoglutamic acid, 5 α -sulfate],
- X. [D-homoglutamic acid, 5 α -sulfate],
- XI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XII. [D-homoglutamic acid, 5 β -sulfate],
- XIII. [L-homoglutamine, N-sulfonic acid],
- XIV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XVI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],
- XVII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XVIII. [D-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXII. [D-homoglutamine, 3 α -sulfonic acid],
- XXIII. [D-homoglutamine, 3 α -sulfate],
- XXIV. [D-homoglutamine, 3 β -sulfonic acid],
- XXV. [D-homoglutamine, 3 β -sulfate],
- XXVI. [D-homoglutamine, 4 α -sulfonic acid],
- XXVII. [D-homoglutamine, 4 α -sulfate],
- XXVIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXIX. [D-homoglutamine, 4 β -sulfate],
- XXX. [D-homoglutamine, 5 α -sulfonic acid],
- XXXI. [D-homoglutamine, 5 α -sulfate],
- XXXII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXIII. [D-homoglutamine, 5 β -sulfate].

14. (Currently Amended) A compound as claimed in claim 11, wherein said compound is selected from the group consisting of ~~aspartic acid, asparagine and corresponding de-amino-analogs~~:

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- I. [L-Aspartic acid, N-Sulfonic acid],
- II. [2 α ,3-dicarboxy, propane-1-sulfonic acid],
- III. [2 α ,3-dicarboxy, propano-1-sulfate],
- IV. [1 α ,2-carboxy ethane sulfonic acid],
- V. [1 α ,2-carboxy ethane sulfate],
- VI. [D-aspartic acid, N-sulfonic acid],
- VII. [2 β ,3-carboxy,propane-1-sulfonic acid],
- VIII. [2 β ,3-carboxy,propane-1-sulfate],
- IX. [1 β ,2-carboxy ethane-1-sulfonic acid],
- X. [1 β ,2-carboxy ethane-1-sulfate],
- XI. [D-aspartic acid, 3 α -sulfonic acid],
- XII. [D-aspartic acid, 3 α -sulfate],
- XIII. [D-aspartic acid, 3 β -sulfonic acid],
- XIV. [D-aspartic acid, 3 β -sulfate],
- XV. [L-asparagine,N-sulfonic acid],
- XVI. [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII. [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX. [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX. [L-asparagine, 3 α -sulfonic acid],
- XXI. [L-asparagine, 3 α -sulfate],
- XXII. [L-asparagine, 3 β -sulfonic acid],
- XXIII. [L-asparagine, 3 β -sulfate],
- XXIV. [D-asparagine, N-sulfonic acid],
- XXV. [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII. [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII. [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX. [D-asparagine, 3 α -sulfonic acid],
- XXX. [D-asparagine, 3 α -sulfate],

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- XXXI. [D-asparagine, 3 β -sulfonic acid], and
XXXII. [D-asparagine, 3 β -sulfate].[[,]]

15. (Currently Amended) A compound as claimed in claim 12, wherein said compound is selected from the group consisting of glutamic acid, ~~glutamine and corresponding de-amino analogs~~:
- I. [L-glutamic acid, N-sulfonic acid],
 - II. [2 α ,4-dicarboxy, butane-1-sulfonic acid],
 - III. [2 α , 4-dicarboxy, butane-1-sulfate],
 - IV. [1 α , 3-dicarboxy, propane sulfonic acid],
 - V. [1 α , 3-dicarboxy, propane sulfate],
 - VI. [1 β , 3-dicarboxy, propane sulfate],
 - VII. [1 β , 3-dicarboxy, propane sulfonic acid],
 - VIII. [D-glutamic acid, N-sulfonic acid],
 - IX. [2 β , 4-dicarboxy, butane-1-sulfonic acid],
 - X. [2 β , 4-dicarboxy, butane-1-sulfate],
 - XI. [D-glutamic acid, 3 α -sulfonic acid],
 - XII. [D-glutamic acid, 3 α -sulfate],
 - XIII. [D-glutamic acid, 3 β -sulfonic acid],
 - XIV. [D-glutamic acid, 3 β -sulfate],
 - XV. [D-glutamic acid, 4 α -sulfonic acid],
 - XVI. [D-glutamic acid, 4 α -sulfate],
 - XVII. [D-glutamic acid, 4 β -sulfonic acid],
 - XVIII. [D-glutamic acid, 3 β -sulfate],
 - XIX. [L-glutamine, N-sulfonic acid],
 - XX. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
 - XXI. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
 - XXII. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
 - XXIII. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
 - XXIV. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],

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- XXV. [1 β -carboxy, 3-carboxamido, propano-1-sulfonic acid],
- XXVI. [D-glutamine, N-sulfonic acid],
- XXVII. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXVIII. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
- XXIX. [D-glutamine, 3 α -sulfonic acid],
- XXX. [D-glutamine, 3 α -sulfate],
- XXXI. [D-glutamine, 3 β -sulfonic acid],
- XXXII. [D-glutamine, 3 β -sulfate],
- XXXIII. [D-glutamine, 4 α -sulfonic acid],
- XXXIV. [D-glutamine, 4 α -sulfate],
- XXXV. [D-glutamine, 4 β -sulfonic acid],
- XXXVI. [D-glutamine, 4 β -sulfate],
- XXXVII. [L-homoglutamic acid, N-sulfonic acid],
- XXXVIII. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
- XXXIX. [Pentane-2 α , 5-dicarboxy-1-sulfate],
- XI. [Butane-1 α , 4-dicarboxy-1-sulfonic acid], and
- XLI. [Butane-1 α , 4-dicarboxy-1-sulfate][[.]].

16. (Currently Amended) A compound as claimed in claim 13, wherein said compound is selected from the group consisting of homoglutamic acid, ~~homoglutamine and corresponding de-amino analogs~~:

- I. [D-homoglutamic acid, N-sulfonic acid],
- II. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
- III. [Pentane-2 β , 5-dicarboxy-1-sulfate],
- IV. [Butane-1 β , 4-dicarboxy-1-sulfonic acid],
- V. [Butane-1 β , 4-dicarboxy-1-sulfate],
- VI. [D-homoglutamic acid, 3 α -sulfonic acid],
- VII. [D-homoglutamic acid, 3 α -sulfate],
- VIII. [D-homoglutamic acid, 3 β -sulfonic acid],
- IX. [D-homoglutamic acid, 3 β -sulfate],

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- X. [D-homoglutamic acid, 4 α -sulfonic acid],
- XI. [D-homoglutamic acid, 4 α -sulfate],
- XII. [D-homoglutamic acid, 4 β -sulfonic acid],
- XIII. [D-homoglutamic acid, 4 β -sulfate],
- XIV. [D-homoglutamic acid, 5 α -sulfate],
- XV. [D-homoglutamic acid, 5 α -sulfate],
- XVI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XVII. [D-homoglutamic acid, 5 β -sulfate],
- XVIII. [L-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XXI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],
- XXII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XXIII. [D-homoglutamine, N-sulfonic acid],
- XXIV. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XXV. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXVI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXVII. [D-homoglutamine, 3 α -sulfonic acid],
- XXVIII. [D-homoglutamine, 3 α -sulfate],
- XXIX. [D-homoglutamine, 3 β -sulfonic acid],
- XXX. [D-homoglutamine, 3 β -sulfate],
- XXXI. [D-homoglutamine, 4 α -sulfonic acid],
- XXXII. [D-homoglutamine, 4 α -sulfate],
- XXXIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXXIV. [D-homoglutamine, 4 β -sulfate],
- XXXV. [D-homoglutamine, 5 α -sulfonic acid],
- XXXVI. [D-homoglutamine, 5 α -sulfate],
- XXXVII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXVIII. [D-homoglutamine, 5 β -sulfate].

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17. (Currently Amended) A compound as claimed in claim 1, wherein incubation of BM leukocyte precursors with different concentrations of the ~~synthetic~~ compound increases the cell surface densities of CD11c, CD80, CD54 and CD11c to various levels with maximum up regulation at 200 mM.
18. (Currently Amended) A compound as claimed in claim 1, wherein it the compound gives the fold increase in the levels of molecules of cells stimulated with either 15 ng/ml of GM-CSF or 200 mM of the ~~synthetic~~ compound at 48 h of incubation.
19. (Currently Amended) A compound as claimed in claim 1, wherein the viability of the cultures is more than 99% at the end of the incubation period at this concentration of the ~~synthetic~~ compound.
20. (Currently Amended) A compound as claimed in claim 1, ~~useful to induce~~ wherein the compound is capable of inducing differentiation of dendritic cells and modulation of immune response controlled by dendritic ~~cell~~ cells.
21. (Currently Amended) ~~A compound as claimed in claim 1, useful in vaccine formulation comprising a compound of Claim 1, wherein the compound is capable of to prevent providing more efficient and faster presentation of antigens to T-cells, thereby initiate initiating primary protective Th1 immune response and help helping in the clearance of the pathogen.~~

Claims 22-28 (Cancelled)

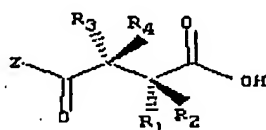
29. (Currently Amended) A ~~[[P]]~~ pharmaceutical composition comprising ~~[[the]]~~ an effective amount of a compound selected from the general formula $Z-OC(C_{n1}R_{n2})-CO-Z$ wherein $Z = OH$ or NH_2 and $n1 = n2 = 1$ to 8, wherein one R in the compound is selected from the group consisting of SO_3H , OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , and $NHSO_3H$.

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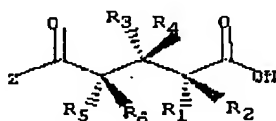
and the remaining Rs are H or NH₂, and salts thereof, along with an additive, excipient, diluents or carrier.

30. (Currently Amended) A composition as claimed in claim 29, wherein said compound useful is capable of being used in vaccine formulation to prevent provide more efficient and faster presentation of antigens to T-cells, thereby initiate initiating primary protective Th1 immune response and help helping in the clearance of the pathogen.
31. (Currently Amended) A composition as claimed in claim 29, wherein said compound ~~having a structure as herein and bearing~~ is a compound of Claim 2 general formula ~~ZOC-CR₃R₄-CR₁R₂-COOH~~ wherein: Z=OH or NH₂; R₁ to R₄ denotes H, NH₂, SO₃H, or OSO₃H; CH₂-SO₃H; CH₂-OSO₃H; NHSO₃H



Structure 1

32. (Currently Amended) A composition as claimed in claim 29, wherein said compound ~~having a structure as herein and bearing~~ is a compound of Claim 3 ~~structure as shown below and bears the~~ general formula ~~ZOC-CR₃R₆-CR₃R₄-CR₁R₂-COOH~~ wherein: Z=OH or NH₂; R₁ to R₆ denotes H, NH₂, SO₃H, or OSO₃H; CH₂-SO₃H; CH₂-OSO₃H; or NHSO₃H



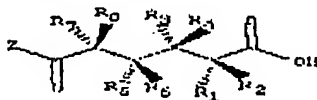
Structure 2

33. (Currently Amended) A composition as claimed in claim 29, wherein said compound ~~having a structure as herein and bearing~~ is a compound of Claim 4 general formula ~~ZOC-~~

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$\text{CR}_7\text{R}_8\text{-CR}_5\text{R}_6\text{-CR}_3\text{R}_4\text{-CR}_1\text{R}_2\text{-COOH}$ wherein: Z=OH or NH_2 , R_1 to R_8 denotes H, NH_2 , SO_3H , or OSO_3H , $\text{CH}_2\text{-SO}_3\text{H}$, $\text{CH}_2\text{-OSO}_3\text{H}$, NHISO_3H



STRUCTURE 3

34. (Currently Amended) A composition as claimed in claim 29, wherein said compound [[in]] is non-toxic to monocytes.
35. (Currently Amended) A composition as claimed in claim 29, wherein said compound [[in]] is non-toxic to macrophages.
36. (Currently Amended) A composition as claimed in claim 29, ~~wherein additives are~~ wherein the composition further comprises an additive comprising different divalent metal cations such as Mg, Ca and Zn.
37. (Currently Amended) A composition as claimed in claim 29, ~~wherein additives are~~ wherein the composition further comprises an additive comprising amino acid/dicarboxylic acid derivatives and their pharmaceutically acceptable selected alkali/alkaline earth metal salts.
38. (Currently Amended) A composition as claimed in claim ~~[[29]]~~31, wherein the compound is selected from the group consisting of:
- [L- Aspartic acid, N-Sulfonic acid],
 - [2 α ,3-dicarboxy, propane-1-sulfonic acid],
 - [2 α ,3-dicarboxy, propane-1-sulfate],
 - [1 α ,2-carboxy ethane sulfonic acid],
 - [1 α ,2-carboxy ethane sulfate],
 - [D-aspartic acid, N-sulfonic acid],
 - [2 β ,3-carboxy,propane-1-sulfonic acid],

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- VIII. [2 β ,3-carboxy,propane-1-sulfate],
- IX. [1 β ,2-carboxy ethane-1-sulfonic acid],
- X. [1 β ,2-carboxy ethane-1-sulfate],
- XI. [D-aspartic acid, 3 α -sulfonic acid],
- XII. [D-aspartic acid, 3 α -sulfate],
- XIII. [D-aspartic acid, 3 β -sulfonic acid],
- XIV. [D-aspartic acid, 3 β -sulfate],
- XV. [L-asparagine,N-sulfonic acid],
- XVI. [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII. [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX. [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX. [L-asparagine, 3 α -sulfonic acid],
- XXI. [L-asparagine, 3 α -sulfate],
- XXII. [L-asparagine, 3 β -sulfonic acid],
- XXIII. [L-asparagine, 3 β -sulfate],
- XXIV. [D-asparagine, N-sulfonic acid],
- XXV. [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII. [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII. [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX. [D-asparagine, 3 α -sulfonic acid],
- XXX. [D-asparagine, 3 α -sulfate],
- XXXI. [D-asparagine, 3 β -sulfonic acid],
- XXXII. [D-asparagine, 3 β -sulfate],
- XXXIII. [L-glutamic acid, N-sulfonic acid],
- XXXIV. [2 α ,4-dicarboxy, butane-1-sulfonic acid],
- XXXV. [2 α , 4-dicarboxy, butane-1-sulfate],
- XXXVI. [1 α , 3-dicarboxy, propane sulfonic acid],
- XXXVII. [1 α , 3-dicarboxy, propane sulfate],

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XXXVIII. [1 β , 3-dicarboxy, propane sulfate], and

XXXIX. [1 β , 3-dicarboxy, propane sulfonic acid].[.].]

39. (Currently Amended) A composition as claimed in claim 29 32, wherein the compound is selected from the group consisting of:

- I. [D-glutamic acid, N-sulfonic acid],
- II. 2 β , 4-dicarboxy, butane-1-sulfonic acid],
- III. [2 β , 4-dicarboxy, butane-1-sulfate],
- IV. [D-glutamic acid, 3 α -sulfonic acid],
- V. [D-glutamic acid, 3 α -sulfate],
- VI. [D-glutamic acid, 3 β -sulfonic acid],
- VII. [D-glutamic acid, 3 β -sulfate],
- VIII. [D-glutamic acid, 4 α -sulfonic acid],
- IX. [D-glutamic acid, 4 α -sulfate],
- X. [D-glutamic acid, 4 β -sulfonic acid],
- XI. [D-glutamic acid, 3 β -sulfate],
- XII. [L-glutamine, N-sulfonic acid],
- XIII. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XIV. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
- XV. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVI. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVII. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XIX. [D-glutamine, N-sulfonic acid],
- XX. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXI. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
- XXII. [D-glutamine, 3 α -sulfonic acid],
- XXIII. [D-glutamine, 3 α -sulfate],
- XXIV. [D-glutamine, 3 β -sulfonic acid],
- XXV. [D-glutamine, 3 β -sulfate],

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- XXVI. [D-glutamine, 4 α -sulfonic acid],
- XXVII. [D-glutamine, 4 α -sulfate],
- XXVIII. [D-glutamine, 4 β -sulfonic acid],
- XXIX. [D-glutamine, 4 β -sulfate],
- XXX. [L-homoglutamic acid, N-sulfonic acid],
- XXXI. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
- XXXII. [Pentane-2 α , 5-dicarboxy-1-sulfate],
- XXXIII. [Butane-1 α , 4-dicarboxy-1-sulfonic acid],
- XXXIV. [Butane-1 α , 4-dicarboxy-1-sulfate],
- XXXV. [D-homoglutamic acid, N-sulfonic acid],
- XXXVI. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
- XXXVII. [Pentane-2 β , 5-dicarboxy-1-sulfate],
- XXXVIII. [Butane-1 β , 4-dicarboxy-1-sulfonic acid], and
- XXXIX. [Butane-1 β , 4-dicarboxy-1-sulfate]; and

40. (Currently Amended) A composition as claimed in claim 29 33, wherein the compound is selected from the group consisting of:

- I. [D-homoglutamic acid, 3 α -sulfonic acid],
- II. [D-homoglutamic acid, 3 α -sulfate],
- III. [D-homoglutamic acid, 3 β -sulfonic acid],
- IV. [D-homoglutamic acid, 3 β -sulfate],
- V. [D-homoglutamic acid, 4 α -sulfonic acid],
- VI. [D-homoglutamic acid, 4 α -sulfate],
- VII. [D-homoglutamic acid, 4 β -sulfonic acid],
- VIII. [D-homoglutamic acid, 4 β -sulfate],
- IX. [D-homoglutamic acid, 5 α -sulfate],
- X. [D-homoglutamic acid, 5 α -sulfate],
- XI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XII. [D-homoglutamic acid, 5 β -sulfate],
- XIII. [L-homoglutamine, N-sulfonic acid],

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- XIV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XVI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],
- XVII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XVIII. [D-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXII. [D-homoglutamine, 3 α -sulfonic acid],
- XXIII. [D-homoglutamine, 3 α -sulfate],
- XXIV. [D-homoglutamine, 3 β -sulfonic acid],
- XXV. [D-homoglutamine, 3 β -sulfate],
- XXVI. [D-homoglutamine, 4 α -sulfonic acid],
- XXVII. [D-homoglutamine, 4 α -sulfate],
- XXVIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXIX. [D-homoglutamine, 4 β -sulfate],
- XXX. [D-homoglutamine, 5 α -sulfonic acid],
- XXXI. [D-homoglutamine, 5 α -sulfate],
- XXXII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXIII. [D-homoglutamine, 5 β -sulfate].

41. (Currently Amended) A composition as claimed in claim 29, ~~wherein novel 31, wherein~~
~~the compound is a sulfonic acid / sulfato derivatives derivative of the compound of Claim~~
~~2, formulae $Z-OC-CR_3R_4-CR_1R_2-COOH$ wherein: $Z=OH$ or $-NH_2$, R_1 , to R_4 denotes H ,~~
 ~~NH_2 , SO_3H , or $-OSO_3H$, CH_2-SO_3H , CH_2-OSO_3H , $NHSO_3H$~~

~~I. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=NHSO_3H$~~
~~is the same meaning as is before defined;~~

~~II. A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=CH_2SO_3H$~~
~~is the same meaning as is before defined;~~

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- III. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- IV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- V. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- VI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=NHOSO_3H$ is the same meaning as is before defined;~~
- VII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- VIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- IX. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- X. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- XI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XIV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=(OSO_3H)$ is the same meaning as is before defined;~~
- XV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=NHOSO_3H$ is the same meaning as is before defined;~~
- XVI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- XVII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~

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- ~~XXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- ~~XXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- ~~XX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- ~~XXI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_3=NH_2$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- ~~XXIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXIV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=NHOSO_3H$ is the same meaning as is before defined;~~
- ~~XXV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- ~~XXVI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- ~~XXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- ~~XXVIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- ~~XXX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined.~~

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42. (Currently Amended) A composition as claimed in claim 29, ~~wherein novel 32, wherein the compound is a sulfonic acid / sulfate derivatives derivative of the compound of Claim 3~~ formulae ~~$ZOC-CR_5R_6-CR_3R_4-CR_1R_2-COOH$, wherein: $Z=OH$ or NH_2 , R_1 , to R_6 denotes H , NH_2 , SO_3H , or OSO_3H , CH_2-SO_3H , CH_2-OSO_3H , $NHSO_3H$,~~
- I. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=NHSO_3H$ is the same meaning as is before defined;~~
- II. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- III. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- IV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- V. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- VI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- VII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- VIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=NHSO_3H$ is the same meaning as is before defined;~~
- IX. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- X. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~

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- XIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XIV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XVI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XVII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XVIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XIX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=NHOSO_3H$ is the same meaning as is before defined;~~
- XX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- XXI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- XXII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- XXIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- XXIV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- XXV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- XXVI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=NHOSO_3H$ is the same meaning as is before defined;~~
- XXVII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~

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XXVII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~

XXIX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~

XXX. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~

XXXI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~

XXXII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~

XXXIII. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~

XXXIV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~

XXXV. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~

XXXVI. ~~A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~

43. (Currently Amended) A composition as claimed in claim 29, ~~wherein novel 33, wherein the compound is a sulfonic acid / sulfate derivatives derivative of the compound of Claim 4~~ formulae $ZO_2CR_7R_8-CR_5R_6-CR_3R_4-CR_1R_2-COOH$, wherein: $Z=OH$ or NH_2 , R_1 to R_8 denotes H , NH_2 , SO_3H , or OSO_3H , CH_2SO_3H , CH_3OSO_3H , $NHISO_3H$

I. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NHISO_3H$ is the same meaning as is before defined;~~

II. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~

III. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~

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- IV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- V. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- VI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$ is the same meaning as is before defined;~~
- VII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- VIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=CH_2OSO_3H$ is the same meaning as is before defined;~~
- IX. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- X. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- XI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XIV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~
- XV. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- XVI. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~
- XVII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~
- XVIII. ~~A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~

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- ~~XIX. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_8=H$, $R_2=NH_2$, $R_7=SO_3H$ is the same meaning as is before defined;~~
- ~~XX. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_4=R_5=R_6=R_8=H$, $R_2=NH_2$, $R_7=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXI. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_4=R_7=R_6=H$, $R_2=NH_2$, $R_8=SO_3H$ is the same meaning as is before defined;~~
- ~~XXII. A compound as claimed in claim 1, wherein $Z=OH$, $R_1=R_3=R_5=R_4=R_7=R_6=H$, $R_2=NH_2$, $R_8=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=NHSO_3H$ is the same meaning as is before defined;~~
- ~~XXIV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2SO_3H$ is the same meaning as is before defined;~~
- ~~XXV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=CH_2OSO_3H$ is the same meaning as is before defined;~~
- ~~XXVI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=SO_3H$ is the same meaning as is before defined;~~
- ~~XXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_2=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_1=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXVIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NHSO_3H$ is the same meaning as is before defined;~~
- ~~XXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=CH_2SO_3H$ is the same meaning as is before defined;~~
- ~~XXX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_4=R_5=R_6=R_7=R_8=H$, $R_2=OSO_3H$ is the same meaning as is before defined;~~
- ~~XXXII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=SO_3H$ is the same meaning as is before defined;~~
- ~~XXXIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_5=R_6=R_7=R_8=H$, $R_2=NH_2$, $R_3=OSO_3H$ is the same meaning as is before defined;~~

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~~XXXIV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~~~XXXV. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~~~XXXVI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_3=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_5=SO_3H$ is the same meaning as is before defined;~~~~XXXVII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_3=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_5=OSO_3H$ is the same meaning as is before defined;~~~~XXXVIII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_4=SO_3H$ is the same meaning as is before defined;~~~~XXXIX. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_6=R_7=R_8=H$,~~ ~~$R_2=NH_2$, $R_4=OSO_3H$ is the same meaning as is before defined;~~~~XL. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_3=R_6=R_5=R_8=H$,~~ ~~$R_2=NH_2$, $R_7=SO_3H$ is the same meaning as is before defined;~~~~XLI. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_4=R_3=R_6=R_5=R_8=H$,~~ ~~$R_2=NH_2$, $R_7=OSO_3H$ is the same meaning as is before defined;~~~~XLI.I. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_4=R_7=R_6=H$,~~ ~~$R_2=NH_2$, $R_8=SO_3H$ is the same meaning as is before defined;~~~~XLII. A compound as claimed in claim 1, wherein $Z=NH_2$, $R_1=R_3=R_5=R_4=R_7=R_6=H$,~~ ~~$R_2=NH_2$, $R_8=OSO_3H$ is the same meaning as is before defined;~~

41. (Currently Amended) A composition as claimed in claim [[29]]38, wherein said compound is non-toxic salts selected from the group consisting of:

- I. [L- Aspartic acid, N-Sulfonic acid],
- II. [2 α ,3-dicarboxy, propane-1-sulfonic acid],
- III. [2 α ,3-dicarboxy, propane-1-sulfate],
- IV. [1 α ,2-carboxy ethane sulfonic acid],
- V. [1 α ,2-carboxy ethane sulfate],
- VI. [D-aspartic acid, N-sulfonic acid],
- VII. [2 β ,3-carboxy,propane-1-sulfonic acid],

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- VIII. [2 β ,3-carboxy,propane-1-sulfate],
- IX. [1 β ,2-carboxy ethane-1-sulfonic acid],
- X. [1 β ,2-carboxy ethane-1-sulfate],
- XI. [D-aspartic acid, 3 α -sulfonic acid],
- XII. [D-aspartic acid, 3 α -sulfate],
- XIII. [D-aspartic acid, 3 β -sulfonic acid],
- XIV. [D-aspartic acid, 3 β -sulfate],
- XV. [L-asparagine,N-sulfonic acid],
- XVI. [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII. [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX. [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX. [L-asparagine, 3 α -sulfonic acid],
- XXI. [L-asparagine, 3 α -sulfate],
- XXII. [L-asparagine, 3 β -sulfonic acid],
- XXIII. [L-asparagine, 3 β -sulfate],
- XXIV. [D-asparagine, N-sulfonic acid],
- XXV. [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII. [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII. [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX. [D-asparagine, 3 α -sulfonic acid],
- XXX. [D-asparagine, 3 α -sulfate],
- XXXI. [D-asparagine, 3 β -sulfonic acid],
- XXXII. [D-asparagine, 3 β -sulfate],
- XXXIII. [L-glutamic acid, N-sulfonic acid],
- XXXIV. [2 α ,4-dicarboxy, butane-1-sulfonic acid],
- XXXV. [2 α , 4-dicarboxy, butane-1-sulfate],
- XXXVI. [1 α , 3-dicarboxy, propane sulfonic acid],
- XXXVII. [1 α , 3-dicarboxy, propano sulfate],

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XXXVIII. [1 β , 3-dicarboxy, propane sulfate], andXXXIX. [1 β , 3-dicarboxy, propane sulfonic acid],[.].]

45. (Currently Amended) A composition as claimed in claim [[29]]39, wherein said compound is ~~non-toxic salts selected from the group consisting of:~~

- I. [D-glutamic acid, N-sulfonic acid],
- II. [2 β , 4-dicarboxy, butane-1-sulfonic acid],
- III. [2 β , 4-dicarboxy, butane-1-sulfate],
- IV. [D-glutamic acid, 3 α -sulfonic acid],
- V. [D-glutamic acid, 3 α -sulfate],
- VI. [D-glutamic acid, 3 β -sulfonic acid],
- VII. [D-glutamic acid, 3 β -sulfate],
- VIII. [D-glutamic acid, 4 α -sulfonic acid],
- IX. [D-glutamic acid, 4 α -sulfate],
- X. [D-glutamic acid, 4 β -sulfonic acid],
- XI. [D-glutamic acid, 3 β -sulfate],
- XII. [L-glutamine, N-sulfonic acid],
- XIII. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XIV. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
- XV. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVI. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVII. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XIX. [D-glutamine, N-sulfonic acid],
- XX. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXI. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
- XXII. [D-glutamine, 3 α -sulfonic acid],
- XXIII. [D-glutamine, 3 α -sulfate],
- XXIV. [D-glutamine, 3 β -sulfonic acid],
- XXV. [D-glutamine, 3 β -sulfate],

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- XXVI. [D-glutamine, 4 α -sulfonic acid],
XXVII. [D-glutamine, 4 α -sulfate],
XXVIII. [D-glutamine, 4 β -sulfonic acid],
XXIX. [D-glutamine, 4 β -sulfate],
XXX. [L-homoglutamic acid, N-sulfonic acid],
XXXI. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
XXXII. [Pentane-2 α , 5-dicarboxy-1-sulfate],
XXXIII. [Butane-1 α , 4-dicarboxy-1-sulfonic acid],
XXXIV. [Butane-1 α , 4-dicarboxy-1-sulfate],
XXXV. [D-homoglutamic acid, N-sulfonic acid],
XXXVI. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
XXXVII. [Pentane-2 β , 5-dicarboxy-1-sulfate],
XXXVIII. [Butane-1 β , 4-dicarboxy-1-sulfonic acid], and
XXXIX. [Butane-1 β , 4-dicarboxy-1-sulfate].[[.]]

[[45]]46. (Currently Amended) A composition as claimed in claim [[29]]40, wherein said compound is ~~non-toxic salts~~ selected from the group consisting of:

- I. [D-homoglutamic acid, 3 α -sulfonic acid],
- II. [D-homoglutamic acid, 3 α -sulfate],
- III. [D-homoglutamic acid, 3 β -sulfonic acid],
- IV. [D-homoglutamic acid, 3 β -sulfate],
- V. [D-homoglutamic acid, 4 α -sulfonic acid],
- VI. [D-homoglutamic acid, 4 α -sulfate],
- VII. [D-homoglutamic acid, 4 β -sulfonic acid],
- VIII. [D-homoglutamic acid, 4 β -sulfate],
- IX. [D-homoglutamic acid, 5 α -sulfate],
- X. [D-homoglutamic acid, 5 α -sulfate],
- XI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XII. [D-homoglutamic acid, 5 β -sulfate],
- XIII. [L-homoglutamine, N-sulfonic acid],

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- XIV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XV. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XVI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],
- XVII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XVIII. [D-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXII. [D-homoglutamine, 3 α -sulfonic acid],
- XXIII. [D-homoglutamine, 3 α -sulfate],
- XXIV. [D-homoglutamine, 3 β -sulfonic acid],
- XXV. [D-homoglutamine, 3 β -sulfate],
- XXVI. [D-homoglutamine, 4 α -sulfonic acid],
- XXVII. [D-homoglutamine, 4 α -sulfate],
- XXVIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXIX. [D-homoglutamine, 4 β -sulfate],
- XXX. [D-homoglutamine, 5 α -sulfonic acid],
- XXXI. [D-homoglutamine, 5 α -sulfate],
- XXXII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXIII. [D-homoglutamine, 5 β -sulfate].

[[46]]47. (Currently Amended) A composition as claimed in claim [[29]]44, wherein said compound is selected from the group consisting of ~~aspartic acid, asparagine and corresponding de-amino analogs:~~

- I. [L- Aspartic acid, N-Sulfonic acid],
- II. [2 α ,3-dicarboxy, propane-1-sulfonic acid],
- III. [2 α ,3-dicarboxy, propane-1-sulfate],
- IV. [1 α ,2-carboxy ethane sulfonic acid],
- V. [1 α ,2-carboxy ethane sulfate],
- VI. [D-aspartic acid, N-sulfonic acid],

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- VII. [2 β ,3-carboxy,propane-1-sulfonic acid],
- VIII. [2 β ,3-carboxy,propane-1-sulfate],
- IX. [1 β ,2-carboxy ethane-1-sulfonic acid],
- X. [1 β ,2-carboxy ethane-1-sulfate],
- XI. [D-aspartic acid, 3 α -sulfonic acid],
- XII. [D-aspartic acid, 3 α -sulfate],
- XIII. [D-aspartic acid, 3 β -sulfonic acid],
- XIV. [D-aspartic acid, 3 β -sulfate],
- XV. [L-asparagine, N-sulfonic acid],
- XVI. [2 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XVII. [2 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XVIII. [1 α -carboxy, 2-carboxamido, ethane sulfonic acid],
- XIX. [1 α -carboxy, 2-carboxamido, ethane sulfate],
- XX. [L-asparagine, 3 α -sulfonic acid],
- XXI. [L-asparagine, 3 α -sulfate],
- XXII. [L-asparagine, 3 β -sulfonic acid],
- XXIII. [L-asparagine, 3 β -sulfate],
- XXIV. [D-asparagine, N-sulfonic acid],
- XXV. [2 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [2 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXVII. [1 β -carboxy, 2-carboxamido, ethane sulfonic acid],
- XXVIII. [1 β -carboxy, 2-carboxamido, ethane sulfate],
- XXIX. [D-asparagine, 3 α -sulfonic acid],
- XXX. [D-asparagine, 3 α -sulfate],
- XXXI. [D-asparagine, 3 β -sulfonic acid], and
- XXXII. [D-asparagine, 3 β -sulfate],[[.]]

[[47]]48. (Currently Amended) A composition as claimed in claim [[29]]45, wherein said compound is selected from the group consisting of glutamic acid, ~~glutamine and corresponding de-amino analogs~~:

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- I. [L-glutamic acid, N-sulfonic acid],
- II. [2 α ,4-dicarboxy, butane-1-sulfonic acid],
- III. [2 α , 4-dicarboxy, butane-1-sulfate],
- IV. [1 α , 3-dicarboxy, propane sulfonic acid],
- V. [1 α , 3-dicarboxy, propane sulfate],
- VI. [1 β , 3-dicarboxy, propane sulfate],
- VII. [1 β , 3-dicarboxy, propane sulfonic acid],
- VIII. [D-glutamic acid, N-sulfonic acid],
- IX. [2 β , 4-dicarboxy, butane-1-sulfonic acid],
- X. [2 β , 4-dicarboxy, butane-1-sulfate],
- XI. [D-glutamic acid, 3 α -sulfonic acid],
- XII. [D-glutamic acid, 3 α -sulfate],
- XIII. [D-glutamic acid, 3 β -sulfonic acid],
- XIV. [D-glutamic acid, 3 β -sulfate],
- XV. [D-glutamic acid, 4 α -sulfonic acid],
- XVI. [D-glutamic acid, 4 α -sulfate],
- XVII. [D-glutamic acid, 4 β -sulfonic acid],
- XVIII. [D-glutamic acid, 3 β -sulfate],
- XIX. [L-glutamine, N-sulfonic acid],
- XX. [2 α -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXI. [2 α -carboxy, 4-carboxamido, butane-1-sulfate],
- XXII. [1 α -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXIII. [1 α -carboxy, 3-carboxamido, propane-1-sulfate],
- XXIV. [1 β -carboxy, 3-carboxamido, propane-1-sulfate],
- XXV. [1 β -carboxy, 3-carboxamido, propane-1-sulfonic acid],
- XXVI. [D-glutamine, N-sulfonic acid],
- XXVII. [2 β -carboxy, 4-carboxamido, butane-1-sulfonic acid],
- XXVIII. [2 β -carboxy, 4-carboxamido, butane-1-sulfate],
- XXIX. [D-glutamine, 3 α -sulfonic acid],
- XXX. [D-glutamine, 3 α -sulfate],

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- XXXI. [D-glutamine, 3 β -sulfonic acid],
- XXXII. [D-glutamine, 3 β -sulfate],
- XXXIII. [D-glutamine, 4 α -sulfonic acid],
- XXXIV. [D-glutamine, 4 α -sulfate],
- XXXV. [D-glutamine, 4 β -sulfonic acid],
- XXXVI. [D-glutamine, 4 β -sulfate],
- XXXVII. [L-homoglutamic acid, N-sulfonic acid],
- XXXVIII. [Pentane-2 α , 5-dicarboxy-1-sulfonic acid],
- XXXIX. [Pentane-2 α , 5-dicarboxy-1-sulfate],
- XL. [Butane-1 α , 4-dicarboxy-1-sulfonic acid], and
- XLI. [Butane-1 α , 4-dicarboxy-1-sulfate].[[.]]

[[48]]49. (Currently Amended) A composition as claimed in claim [[29]]46, wherein said compound is selected from the group consisting of ~~homoglutamic acid, homoglutamine and corresponding de-amino analogs:~~

- I. [D-homoglutamic acid, N-sulfonic acid],
- II. [Pentane-2 β , 5-dicarboxy-1-sulfonic acid],
- III. [Pentane-2 β , 5-dicarboxy-1-sulfate],
- IV. [Butane-1 β , 4-dicarboxy-1-sulfonic acid],
- V. [Butane-1 β , 4-dicarboxy-1-sulfate],
- VI. [D-homoglutamic acid, 3 α -sulfonic acid],
- VII. [D-homoglutamic acid, 3 α -sulfate],
- VIII. [D-homoglutamic acid, 3 β -sulfonic acid],
- IX. [D-homoglutamic acid, 3 β -sulfate],
- X. [D-homoglutamic acid, 4 α -sulfonic acid],
- XI. [D-homoglutamic acid, 4 α -sulfate],
- XII. [D-homoglutamic acid, 4 β -sulfonic acid],
- XIII. [D-homoglutamic acid, 4 β -sulfate],
- XIV. [D-homoglutamic acid, 5 α -sulfate],
- XV. [D-homoglutamic acid, 5 α -sulfate],

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- XVI. [D-homoglutamic acid, 5 β -sulfonic acid],
- XVII. [D-homoglutamic acid, 5 β -sulfate],
- XVIII. [L-homoglutamine, N-sulfonic acid],
- XIX. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfonic acid],
- XX. [Pentane-2 α -carboxy, 5-carboxamido-1-sulfate],
- XXI. [Butane-1 α -carboxy, 4-carboxamido-1-sulfonic acid],
- XXII. [Butane-1 α -carboxy, 4-carboxamido-1-sulfate],
- XXIII. [D-homoglutamine, N-sulfonic acid],
- XXIV. [Pentane-2 β -carboxy, 5-carboxamido-1-sulfonic acid],
- XXV. [Butane-1 β -carboxy, 4-carboxamido-1-sulfonic acid],
- XXVI. [Butane-1 β -carboxy, 4-carboxamido-1-sulfate],
- XXVII. [D-homoglutamine, 3 α -sulfonic acid],
- XXVIII. [D-homoglutamine, 3 α -sulfate],
- XXIX. [D-homoglutamine, 3 β -sulfonic acid],
- XXX. [D-homoglutamine, 3 β -sulfate],
- XXXI. [D-homoglutamine, 4 α -sulfonic acid],
- XXXII. [D-homoglutamine, 4 α -sulfate],
- XXXIII. [D-homoglutamine, 4 β -sulfonic acid],
- XXXIV. [D-homoglutamine, 4 β -sulfate],
- XXXV. [D-homoglutamine, 5 α -sulfonic acid],
- XXXVI. [D-homoglutamine, 5 α -sulfate],
- XXXVII. [D-homoglutamine, 5 β -sulfonic acid], and
- XXXVIII. [D-homoglutamine, 5 β -sulfate].